CHARGE NUMBER: 4009

PROJECT TITLE: SMOKE STUDIES

PROJECT LEADER: B. L. GOODMAN

PERIOD COVERED: OCTOBER, 1985

I. Project Slow (J. Hearn)

Objective:

Develop the technology to reduce or mask objectionable odor of sidestream smoke.

Develop a subjectively acceptable cigarette with reduced sidestream visibility.

Status:

The full flavor model with drastically reduced sidestream has been evaluated on the MC panel. Results showed the experimental model to be less acceptable than a commercial full flavored cigarette, even though no significant differences were seen in strength or tobacco taste. Modifications of the full flavor model have been initiated using a blend change or changes in filtration efficiencies.

The low delivery model has been made with three different after cut flavors. The cigarettes will be evaluated against the previous model that was tested on the O/C panel. Liking scores in that test were not significantly different for the low sidestream prototype and the control Marlboro Lights.

The low delivery blend has been used to test the subjective effects of Graham's salt coated on MgO paper evaluations done to date are encouraging.

Ultra Light models with 60% reduction in sidestream visibility were made with different blends. Subjective evaluations are in progress.

Several models with smaller reductions in sidestream visibility have been made with varying blends, filtration, dilution, and wrappers. They will be evaluated subjectively when the analytical data is known.

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II. Wrapper Modifications (R. Greene)

Objective:

To evaluate modified cigarettes for slow burning characteristics.

Results:

Cigarettes have been made and smoked to examine the effects of rod density on burn rate and heat output of the cigarette. Rods were made with three percentages of expanded material at three tobacco weights each. Smoke results show the expected increases in puff count as the tobacco weight increases. Cigarettes will be smoked for burning rate and submitted to the tobacco physics group for measurements of heat flux.

Source: https://www.industrydocuments.ucsf.edu/docs/fhgm0000

III. Tipping Papers (R. Arthur)

Objective:

To investigate lip release performance from different converters.

Results:

Sample bobbins of EC-30436 and GSR-236M2 white tippings were received after conversion by Hermetite with .4 and .6 g/m^2 nitrocellulose coatings. Half of the .4 g/m^2 bobbins were coated on the wire side and the other half were coated on the felt side. The .6 g/m^2 bobbins were also coated on the wire side and felt side respectively.

The bobbins were perforated and samples taken off each bobbin for nitrocellulose extraction. The extraction results showed the samples that were supposed to be at .4 grams to be closer to the .6 gram level, and the .6 gram level samples were .6, .7, .8, and 1.0 g/m^2. Strips of each were sent back to Hermetite for further examination.

Cigarettes have been made from all eight bobbins using Marlboro Lights specifications. Preliminary subjective testing will be done on both the EC-30436 and the GSR-236M2 at the .6 and 1.0 g/m^2 level. Testing at the .4 level will be done when the new samples are received from Hermetite.

Previous panel testing of Ecusta's 701 cork tipping on Marlboro cigarettes gave a noticeably better rating on lip release when converted by Ecusta. The EC-701 converted by Hermetite rating was not significantly different from other converters.

These two cigarette models were panel tested for lip release against the following competitive brands:

Winston	(Cork)
Kent	(Cork)
Tareyton	(Cork)
Viceroy	(Cork)
Kent	(White)
Marlboro Lts.	(White)
Winston Lts.	(Cork on White)

The results of the panel test showed that the Winston Lights was significantly better than the others with a lip sticking rating of 1.6 on a seven point scale. All the cork tipped cigarettes including the two experimental tippings were seen as equal with ratings grouped from 2.08 to 2.37. The Marlboro Lights was rated worse than the cork at 4.33, but the Kent had the worst lip sticking rating at 5.09.

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